

REMARKS

Claims 3-7, 13, and 14 were pending in the application. Claims 15 and 16 have been added. No new matter has been introduced. Thus, claims 3-7, and 13-16 are pending for reconsideration at this time.

Rejections Under 35 U.S.C. §112, ¶2

Claims 3-7, 13, and 14 stand rejected under 35 U.S.C. §112, ¶2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More specifically, claims 3 and 13 are rejected for reciting a “fourth polyester fiber (E)” without a third polyester fiber proceeding the fourth polyester fiber. Additionally, claim 4 is rejected for reciting a “fifth polyester fiber (D)”, even though it is the fourth type of polyester fiber mentioned in the claims.

The claims recite the “fourth polyester fiber (E)” and “fifth polyester fiber (D)”, however, to correspond with the examples thereof provided in the specification. More specifically, the present invention discloses multiple polyester fiber types, which are arranged in various combinations to achieve different embodiments of the present invention. To change the noted nomenclature in the claims would thus cause the claims to refer to polyester fibers which do not track well with the specification. Hence, Applicants respectfully submit that the present claims are sufficiently clear, because they track with the examples in the specification, and have proper antecedent basis for their recitation in the claims. To illustrate the aforementioned argument, Applicants refer the Examiner’s attention to the first polyester fiber (A) on page 2, lines 27 to 28, the second polyester fiber (C) on page 2, lines 29 to 30, the third polyester fiber (B) on page 4, lines 10 to 12, the fourth polyester fiber (E) on page 3, lines 11 to 13, and the fifth polyester fiber (D) on page 4, lines 15 to 18, and to the Table 1 on page 24.

Withdrawal of the rejection under 35 U.S.C. §112, ¶2 is earnestly solicited.

Prior Art Rejections

Claims 3-5, 7, and 13 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,066,388 to Van Kerrebrouck (“Van Kerrebrouck” hereafter). Claims 3-7, 13, and 14 also stand rejected under 35 U.S.C. §103(a) as being unpatentable over Van Kerrebrouck in view of U.S. Patent No. 5,554,831 to

Matsukawa ("Matsukawa" hereafter). Applicants respectfully traverse these rejections as follows.

Rejection Under 35 U.S.C. §102(e)

The Office Action correctly acknowledges in note 8 of the pending Office Action that Van Kerrebrouck fails to disclose a polyester fiber having a size smaller than 1 denier. Thus, Van Kerrebrouck cannot anticipate the presently claimed invention, which explicitly recites a first polyester fiber having a size smaller than 1 denier, for at least the distinctions acknowledged by the Office Action. Withdrawal of the rejection under 35 U.S.C. §102(e) is solicited.

Rejection Under 35 U.S.C. §103(a)

The Office Action further asserts that Matsukawa discloses using fibers of less than 2 denier, and that, in view of Matsukawa, it would have been obvious to discover the optimum value of 1 denier because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. The Office Action further asserts that it would have been obvious to one having ordinary skill in the art to use fibers less than 1 denier in thickness, as allegedly taught by Matsukawa, in order to increase the sound absorbing capabilities of the inner layer of Van Kerrebrouck. Applicants respectfully traverse this assertion as follows.

The presently claimed invention is related to an interior material of an automobile which is high in both sound insulating performance and moldability (see page 1, lines 7 to 11 of the as filed specification). By way of example, the Background Of The Invention section describes Japanese Patent Provisional Publication No. 9-48042, which discloses that, while fibers having sizes smaller than about 1 denier may improve sound absorption properties, their lower moldability of the material (see page 2, lines 7 to 11 of the as filed specification). Moldability is a significant concern in the automotive interior field, where the interior is often very complicated in shape and structure, which has prevented use of materials having lowered moldability, including materials having substantial amounts of fiber with less than a 1 denier size.

In view of the problems associated with fibers having sizes smaller than about 1 denier, the present inventors developed the claimed multi-layered material; i.e., a material having at least a sound absorbing material layer and a first moldable layer laminated to the sound absorbing layer, as exemplified by claim 3. By providing a

multi-layered structure, the amount of polyester fibers having a size smaller than about 1 denier in the sound absorbing material layer can be increased (i.e., to an amount from about 20 to about 95 parts by weight), which improves the sound insulating performance of the sound absorbing material layer, without also substantially increasing the amount of polyester fibers having a size smaller than about 1 denier in the first moldable layer, thereby maintaining the moldability of the first moldable layer. The claimed structure is thus good in *both* sound absorption *and* moldability.

Additionally, the present inventors have found that the claimed multi-layered material unexpectedly improves the sound absorption properties beyond that expected. More specifically, the present inventors have found that, by laminating the first moldable layer with the larger size polyester fibers to the sound absorbing layer with the smaller polyester fiber as claimed, air is forced out from between the layers through the first moldable layer due to the higher air flow resistance of the sound absorbing layer, the higher air flow resistance being caused by the smaller sized polyester fibers in the sound absorbing layer. The reduction in air within the material lowers the overall spring characteristics of the interior material, thereby further improving the sound insulating performance of the multi-layered material.

The prior art fails to disclose or suggest the structure and/or benefits described above. More specifically, as previously discussed, the Office Action correctly acknowledges that *both* Van Kerrebrouck *and* Matsukawa fail to disclose polyester fibers having a size smaller than about 1 denier, but asserts that Matsukawa discloses using fibers of less than 2 denier in the inner trim member of an automobile headliner and that discovering the optimum value of 1 denier involves only routine skill in the art. As previously described with reference to Japanese Patent Provisional Publication No. 9-48042, however, moldability problems caused by polyester fibers having a size smaller than about 1 denier would prevent one of ordinary skill in the art from using 1 denier fibers in Matsukawa in the claimed amounts. Indeed, Matsukawa acknowledges the denier size issue, disclosing a substantial amount (i.e., up to 70% by weight) of fiber having a size of *not less than 6 denier* to improve processability of the material (col. 4, line 64 to col. 5, line 2). Thus, one of ordinary skill in the art would *not* be motivated to use polyester fibers having a size smaller than 1 denier in the

claimed amounts as set forth by the Office Action, because that person would expect degraded moldability and processability beyond acceptable limits.

Additionally, there is no motivation recited within either reference to modify the structure of Van Kerrebrouck with the fibers disclosed in Matsukawa so as to achieve the structure and/or benefits of the claimed invention. More specifically, as Matsukawa fails to disclose the claimed multi-layered configuration, one of ordinary skill in the art would not know to provide the claimed amount of fibers having a size less than 1 denier in the sound absorbing layer but not the alleged first moldable layer in Van Kerrebrouck, or to laminate the sound absorbing layer with the first moldable layer so as to force the air out through the first moldable layer. As such, there is no motivation within either reference to achieve the structure and/or benefits of the claimed invention.

In view of the aforementioned comments, withdrawal of the rejection under 35 U.S.C. §103(a) is earnestly solicited.

New Claims 15 and 16

New claims 15 and 16 have been added to more fully recite features of the present invention. Support for new claims 15 and 16 can be found, for example, in Table 1, and throughout the specification. Claims 15 and 16 are dependent upon claims 3 and 13 respectively, and are considered to be allowable for at least the aforementioned reasons with respect to claims 3 and 13, in addition to the further patentable features recited therein. Allowance of claims 15 and 16 is earnestly solicited.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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By D.L.G.

FOLEY & LARDNER
Washington Harbour
3000 K Street, N.W., Suite 500
Washington, D.C. 20007-5143
Telephone: (202) 672-5300
Facsimile: (202) 672-5399

Daniel L. Girdwood
Agent for Applicant
Registration No. 52,947

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